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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/674,224	09/29/2003	Jose M. Sosa	API- 1018-US	2510

7590 03/31/2005  
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EXAMINER	
ASINOVSKY, OLGA	
ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 03/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/674,224	SOSA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Olga Asinovsky	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☒ This action is FINAL.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 12-26 is/are rejected.
- 7) ☐ Claim(s) 10-11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                         |                                                                             |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                                |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____                                                             | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102 or 103*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-4, 8-9 and 13-15 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kamath U.S. Patent 4,125,695.

The rejection is set forth at pages 2-4 of the office action mailed on 09/24/2004 and it is incorporated here by reference.

4. Applicant's arguments filed 01/24/2005 have been fully considered but they are not persuasive. Applicants' argument is that Kamath does not teach, show or suggest in the process independent claim 1 and new claim 25 to control the polymer morphology.

5. During the interview the inventor Dr. Sosa discloses the density of cells having honeycomb structure and how to regulate the morphology of the cells having

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"predominantly 4 to 6 inclusions of polystyrene, referring to Fig. 3, No. 302 in the present invention, example 1. The key of the invention is the content of non-grafting initiator to a grafting initiator. (Reference *Echte Article* has not been received in this case).

The present independent claims 1 and 25 are open to any morphology structure. The term "non-grafting initiator" is open to any source of being initiator including a temperature.

Kamath discloses a process for the free radical polymerization of vinyl monomers including styrene monomer containing dissolved elastomer for producing high impact polystyrene. The polymerization process is continuous process in the presence of the initiator system containing at least two initiators, column 3, lines 1-8. One type of an initiator is peroxy-containing initiator, columns 7- 8. Other type of initiators are polyfunctional initiators including azo-bis-isobutyronitrile, column 6, lines 1-15.

Selection of the combination of two polymerization initiators is depending upon their influence on the functionality and half-lives decompose temperature. Kamath discloses that the concentration of the di- or poly-functional initiator is preferably from 10 to 90%, column 6, lines 66-68. The working example 7 at column 12 discloses a difunctional azo initiator in combination with peroxide initiators. It is reasonably to presume that the claimed "grafting initiator" and a "non-grafting initiator" would possess the same properties in the initiators system in Kamath's invention, because Kamath discloses an organic peroxide initiator in combination with difunctional azo initiator. It is a burden on the applicants to provide the difference in order to overcome this rejection under *In re*

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*Fitzgetald* 205 USPQ 594. The azo-compound initiator is readable of being a “non-grafting initiator.”

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 3-5, 8-9, 13-20 and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Sosa et al U.s. Patent 4,861,827.

The combination of initiators including peroxy-containing compound and azo-containing compound is readable in Sosa as being a grafting initiator and non-grafting initiator, column 5, lines 42-68. Any addition component(s) in a process for producing a HIPS composition is/are expected as conventional ingredients. Any morphology structure of the resultant HIPS polymer could be obtained in Sosa'827 invention.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 6-7, 12 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sosa et al U.S. Patent 4,861,827 as applied to claims 1, 3-5, 8-9, 13-20 and 24-26 above, and further in view of Schrader et al U.S. Patent 5,428,106.

The rejection is set forth at page 5 of the office action mailed on 09/24/2004 and it is incorporated here by reference.

Sosa does not disclose a chain transfer agent and a solvent specified in the present claims 2 and 6.

Schrader discloses high impact polystyrene resin prepared by a solution polymerization of styrene in the presence of discrete rubbery polymer particles in the presence of ethyl benzene diluent and an initiator and chain transfer agent, column 5, lines 56-58, column 10, lines 27-31 and 38-41. The initiators can include any known peroxide initiators and azo compounds, column 5, lines 27-32. The combination of a chain transfer agent with an initiator is a benefit to control the rubber particle size and morphology within the rubber-modified styrene resin obtained from the graft polymerization process, column 5, lines 56-60. The conventional additives can be employed, column 9, line 64.

It would have been obvious to one of ordinary skill in the art to consider that a process for producing a HIPS composition in Sosa'827 can be modified by adding a chain transfer agent, solvent and any conventional additives as disclosed by Schrader, because Sosa'827 discloses that a solution polymerization can be applied for producing a HIPS composition and the other additives (Sosa, column 2, line 39) can include a chain transfer agent as being a beneficial agent for controlling the rubber particle size

and morphology within the rubber-modified styrenic resin, column 5, lines 57-58 in Schrader.

***Allowable Subject Matter***

10. Claims 10-11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 10 and 11 disclose the specified "non-grafting initiator" with a combination of a grafting initiator in a process for making a HIPS resin.

***Conclusion***

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

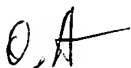
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

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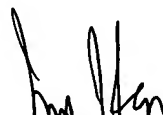
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



March 23, 2005

Olga Asinovsky  
Examiner  
Art Unit 1711



James J. Seidleck  
Supervisory Patent Examiner  
Technology Center 1700

